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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,219	12/19/2000	Adam Bosworth	41016.P004	7676

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EXAMINER

VU, TUAN A

ART UNIT

PAPER NUMBER

2124

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,219

Applicant(s)

BOSWORTH ET AL.

Examiner

Tuan A Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This action is responsive to the Applicant's response filed 04/19/2004.

As indicated in Applicant's response, claims 6-8, and 16-18 have been amended. Claims 1-21 are pending in the office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Note: 35 U.S.C. § 102(e), as revised by the AIPA and H.R. 2215, applies to all qualifying references, except when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. For such patents, the prior art date is determined under 35 U.S.C. § 102(e) as it existed prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. § 102(e)).

3. Claims 1, 2, 4, 9 and 11-12, 14, 19, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Nasr et al., USPN: 6,438,540 (hereinafter Nasr).

As per claim 1, Nasr discloses a method of computing comprising:

analyzing a data processing specification having a plurality of data processing cell specifications (e.g. Fig. 2; *query ... instructions* – col. 3, lines 58-65; Fig. 4 – Note: instructions enclosed between tags are equivalent to cell specification) with each data cell specification containing a formula specifying an action or computation (e.g. *Action 830* –Fig. 8);

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determining a transformation/matching order (e.g. *document tree, based on tags and attributes* – col. 4, lines 4-48; Fig. 4, 8) of said actions/computations specified by said data processing cell specifications; and

effectuating the data processing specified by the data processing specification in accordance with the determined hierarchical order of said actions/computations specified by said data processing cell specifications (e.g. col. 4, line 25 to col. 5, line 5).

It is noted that Nasr does not explicitly specify determining the execution order of said actions or computations. However, Nasr discloses the tree (hierarchy) of cell elements and traversal thereof in order to process the XSL based instructions with assistance of rules, tag information and pattern matching or predicate checking to render results for a query (e.g. *parent/child, predicate algorithm* - col. 5, lines 7-30; *based on tags and attributes* – col. 4, lines 4-48; col. 6, lines 50 to col. 7, line 7; Fig. 3, 4) thereby discloses a certain order constraint to be determined dynamically in the rendering of results, i.e. an order for executing the query request via processing the cells or nodes in the tree. Therefore the step of determining the execution order and effectuating the data processing in accordance with such execution order is implicitly disclosed.

As per claim 2, Nasr discloses cell defined between beginning and end tags (e.g. Fig. 8).

As per claim 4, Nasr discloses one or more attribute specifications (e.g. col. 5, lines 7-11; *element type*- Fig. 8).

As per claim 9, Nasr discloses global attributes (e.g. *sd=0 ... TITLE, COSTUME* – Fig. 4 – Note: subtree depth being zero is equivalent to highest level of attribute common to all nodes of the subtree, i.e. attribute global to subtree cells).

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As per claim 11, this apparatus claim corresponds to method claim 1 for it recites the same steps of analyzing, determining, and effectuating as in claim 1; hence will be rejected with the corresponding rejections as set forth in claim 1. Nasr further discloses one processor coupled to one storage unit having stored thereon the program instructions designed to provide the above steps (Fig. 5, 6).

As per claims 12, 14, 19, these are apparatus claims of claims 2, 4, 9 respectively; hence will be addressed with the same rejections as set forth therein, respectively.

As per claim 21, this claim is the apparatus claim of method claim 1 for it includes means for performing the same steps of analyzing, determining, and effectuating as recited therein; hence will be rejected using the same corresponding rejections as set forth therein.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 5, 8, 10, 13, 15, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nasr et al., USPN: 6,438,540, as applied to claims 1, 4, 11, 14, 19; in view of Lipkin, USPubN: 2002/0073080 (hereinafter Lipkin).

As per claim 3, Nasr does not explicitly specify one second cell specifying having a action referencing a value of a first cell but discloses hyperlinking in markup specification (e.g. *hyperlink* - col. 7, line 57 to col. 8, line 10) and XSL based parsing (Fig. 8) to effectuate query instructions. In a method to enhance XSL and query language analogous to Nasr, Lipkin

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discloses XSL-based action/formula (e.g. *value-of select=* -- pg. 59-62) from one cell to reference a value defined in another cell (e.g. *\$ORDERITEMID*, *\$STUDENTID*, *@idref* – pg. 56, line). Official notice is taken that hyperlinked language using tag section to include variables defined outside of the page in which the referencing tag is being interpreted; or inline programming code instructions (e.g. JavaScript or Java method calls) was a known concept at the time the invention was made. In case Nasr's method does not already include such referencing, it would have been obvious for one of ordinary skill in the art at the time the invention was made to enhance the query language specification of Nasr with its hyperlinking or referencing tags so that Nasr's XSL specification cell includes a formula referencing of value defined in another cell as taught by Lipkin because according to well-known techniques (i.e. official notice) as mentioned above, referencing a value defined elsewhere in another cell by an action specified in the calling cell is one of the most basic referencing asset in programming language in that it can make use of already defined resources more efficiently by just defining a pointer/reference tag to retrieve such memory value.

As per claim 5, Nasr does not explicitly specify one cell having attribute referencing data of another cell. In view of Lipkin's teaching from above, referencing data defined in another cell has been disclosed. Hence, this limitation has been addressed above using the teaching by Lipkin to combine with the attribute specification and hyperlinking by Nasr for the same rationale as set forth in claim 3.

As per claim 8, Nasr does not specify a specification cell comprising a conditional executed formula; but Lipkin discloses a conditionally executed cell (e.g. *<xsl: if ...> ... </xsl: if>* - pg. 61; *<condition .. </condition>*, para 1104, pg. 74). In view of the finding of candidate

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data for correctness checking and/or mapping of attributes for correct data retrieval as suggested by Nasr (Fig. 2; col. 1, line 21 to col. 12, line 42), it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Nasr's specification cell so that conditional cell be implemented to address an execution based on a condition because this conditional execution cell can be reused and passed as reference and the conditional execution would have obviated resources usage; all of this benefit being a result of using programming constructs being inlined (e.g. code being effected without context switching) inside the tags as mentioned from the Official notice from above.

As per claim 10, Nasr does not teach a global attribute specifying a format even though Nasr discloses HTTP request and XSL/XML tags containing format/type characteristics (Fig. 7, 8). Lipkin, in the method to manage information having server to retrieve data from database like processing query by Nasr, disclose XML global attribute specifying a XML format (*?xml=version, xsl= stylesheet version ...XSL/Transform ... xmlns=xsl* -- pg. 42, 46). Official notice is taken that setting up type, format, version, and internet protocol at the header part of any hypertext page or document was a known concept at the time the invention was made. In case Nasr's specification language does not already provide a global attribute specifying a HTTP protocol format, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement a global attribute specifying the protocol format to Nasr's specification XML language, such format based on which communication data are parsed, transformed and displayed as taught by Lipkin. The motivation would have been that with such global specification of format protocol, the fundamental and foremost knowledge of how data are to be parsed and handled would be more defined and that such knowledge would help avert

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format conflict during data processing of HTTP requests and subsequent display of returned data, a concept which is well-known in the HTTP-based or internet communication, according to the Official notice above.

As per claims 13, 15, 18, 20, these are apparatus claims of claims 3, 5, 8, 10 respectively; hence will be rejected using the corresponding rejections as set forth therein.

6. Claims 6, 7, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nasr et al., USPN: 6,438,540, as applied to claims 1, 11; in view of Srivastava et al., USPubN 2002/0120685 (hereinafter Srivastava).

As per claim 6, Nasr discloses retrieving data from a database using stylesheet specification but does not explicitly specify cell specification comprising a mnemonic for providing input to the data processing specification; but nevertheless discloses value attribute processed via a tree (*step 221* - Fig. 2; col. 4, lines 4-42); hence suggests some providing of attribute value passed as arguments to the next query executing code. Srivastava, in a similar method using XML and metadata for supporting database query analogous to the XML/XSL combination scheme by Nasr, discloses the use of special tag nomenclature to serve as input cell (e.g. <input>...</input> -- pg. 43). In view of the need for passing input attributes to the sequence of querying instructions as suggested by Nasr from above, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the query specification cell by Nasr so that a special cell enclosing a special tag or mnemonic is implemented to encompass a input specification as suggested by Srivastava. The motivation is that by enclosing input data as by a special mnemonic in a specification cell, the amount of data serving as input to the next data retrieving instruction would be more individualized as a separate

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entity and such entity can be passed by reference to subsequent querying instructions, making the processing of data more efficient, hence enhancing the correctness of information or user specifications to be submitted as suggested by Srivastava (see Summary of Invention)

As per claim 7, likewise, Nasr does not specify a cell being reserved for an output of data but Srivastava discloses an output cell (e.g. pg. 46). Following on the rationale as to why Nasr's cell can be furthered with being differentiated into input cells, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the query specification cell by Nasr so a specification cell is reserved as output cell as taught by Srivastava because providing such output cell to the query processing tree and results yielding by Nasr (see Nasr: Fig. 1, 1B, 2) would enhance the processing efficiency in that passing input and output cells would alleviate resources by simply using a reference to such cells, just as mentioned in the rationale as set forth in claim 6 above.

As per claims 16, 17, these are apparatus claims of claims 6, 7, respectively; hence will be rejected using the corresponding rejections as set forth therein.

Response to Arguments

7. Applicant's arguments filed 4/19/2004 have been fully considered but they are not persuasive. Following are the specific arguments being raised and related Examiner's response.

Rejection under 35 USC 102(e): claims 1-2, 4,9, 11-12, 19 and 21

(A) Applicants have submitted that 'the cited and applied reference fails to teach ... execution order is implied by the hierarchical/tree structure ... tree traversal orders ... not taught or suggested by Nasr' (Appl. Rmrks, pg. 7, 1st para). The rejection as set forth points out where an execution order is considered as being determined during the process of traversing the tree of

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cells created from a XSL tag specification. In Nasr's reference, a XSL specification-based tree has been constructed and in traversing the nodes of the tree using additional assistance from engines using rules, tag information, pattern mapping or predicate algorithm, the execution of the query results rendering (e.g. Fig. 3,4) has been made possible via tag mapping and action taken based on all the above. If the order in which those actions are taken (as a result of using the above rules, tag value and pattern mapping) has not been determined during such transformation process, then there would be no result being rendered. In other words, there would be no query execution result as a consequence of traversing the tree. And determining the execution order is viewed as the decision making step at each node in order to determine which descendent node would be in the sequence in order to apply the next rule/mapping thereon. While it is known in the art that a tree can be created, creating a tree and making use of the tree are not to be the same. The piece of document (*Data Structures*, chap. 12) provided by Applicants talks about creating a binary tree and defines 3 modes of traversal. However, such information does not negate the fact that while traversing a tree to fulfill some specification (or grammar rules) mapping or validation done by, say, a compiler or language-parsing or inference engine, a decision is made at every node in order to choose which next node in sequence should be taken. Again, such dynamic determination is perceived as determination of execution order. The claim only recites 'determining execution order of ... actions/computations specified by ... cell specifications', and absolutely does not elaborate on how particular this determination step is being implemented nor does the claim specify the time frame according to which this order of execution is determined, e.g. a determination before the tree traversal is taken or during the processing of each cell representing a tree node. As interpreted, the limitation as to 'determining execution order' has

been perceived through the teachings by Nasr and presented as being implicitly disclosed in the rejection, if not inherently so. In other words, if no such a order determination were made when stopping at a cell in the XSL-based specification tree traversal, then the process of generating the actions would be stalling and no result from the execution based upon this tag information would be achieved, in which case, Nasr's invention would become a non-statutory subject matter for lack of providing an useful result. Moreover, the notion of a tree basically implies a directional path or traversal order (i.e. up-down or down-up order); and how specific this traversal order is or the manner in which such directional path is executed (i.e. the combined process of determinating taken at each node) is perceived to be equivalent to determining order of execution. The repeated decision making steps taken at tree nodes in order to select which way to proceed amount to what is termed as determination of an order of execution and such is provided Nasr' s tree path traversal with decision making based on rules and mapping engine. This determination does not have to be explicitly stated because without it the process of rendering results from such tree-traversal would have yielded no result.

(B) Applicants have submitted that they 'have been unable to identify anywhere within Nasr ... execution order ... implied to be determined' and that the 'Nasr merely teaches ... querying a database ... distinct from ... ' and that the 'query processed by Nasr are clearly different ... claims 11 and 21' (Appl. Rmrks, pg. 7, bottom, pg. 8, top 2 para). This argument falls under the ambit of the basic point raised in section A above; and is now directed thereto for the corresponding Examiner's response. The fact that Nasr teaches a query of database does not directly relate to how the rejection is structured in order to address what is explicitly claimed;

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and what features Applicants do not (e.g. in specification) expressly claim will not be read into the claims.

(C) Applicants have submitted that 'if the assertion ... inherently implies an order ... have no need of an element of determining ... claim 1' (Appl. Rmrks, pg. 8, 3rd para). As long as Nasr teaches features by which the claimed limitation is considered to have been met, the rejection will stand; and there is provision afforded by the Office to use a inherent teaching when the rejection is able to establish the fact justifying why such teaching is so. The point raised by Applicants concerning a need for a method to address the determination is not explicitly related to what is recited, and is deemed moot against the state of the rejection for the rejection only addresses what is clearly recited based on Examiner's broadest reasonable interpretation.

(D) As per claim 9, Applicants have submitted that Nasr 'has no teaching of global processing characteristics ... specified data processing' (Appl. Rmrks, pg. 8, bottom para). The rejection has showed the elements by Nasr that correspond to what is termed as 'global processing characteristics'. Besides, the Examiner has used the broadest reasonable interpretation when addressing the so-called 'global processing characteristics' because the claim does not provide specifics that would distinguish such limitation from what has been cited in the Nasr's reference. Examiner cannot rely or base on Applicants' own perception of or understanding expected from what is recited while Examiner prosecutes the merits of the claim. Hence, according to Examiner's broad interpretation, those portions recited from Nasr do represent 'global processing characteristics'.

Rejection 35 USC 103(a): claims 3,5,8, 10, 13, 15 ,18, 20 and claims 6-7, and 16-17.

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(E) Applicants have submitted that the 'rejection is using hindsight reasoning based ... The references do not teach or suggest ... how they could be combined in any manner(Appl. Rmrks, pg. 9-11). In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). For each instance of obviousness reasoning being effected in the rejection, Examiner has pointed out what in the references(mainly the base reference) has been suggested or partially taught, what in the secondary references has been taken to a further step, what has been combined and what motivates the combined teachings from the references in order to achieve the features being addressed as obvious. Examiner only relies on references publicized prior to the time the invention was made and does not amalgamate features for lack of supporting evidence in the prior art at hand. In contrast, Applicants do not provide for each case a solid explanation as to support why Examiner's combination of reference teachings would be without foundation and thus strictly based on lack of (concrete prior art's) suggestion and on inadmissible hindsight construction. Hence the points raised above amount to mere allegation without specific evidence to justify the impropriety of the rejection as applied and Applicants fail to establish how the claims distinguish over the prior art.

For those above reasons, the rejections will stand as set forth above.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (703)305-7207. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry)


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or: (703) 746-8734 (for informal or draft communications, please consult Examiner before using this number)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. , 22202. 4th Floor(Receptionist).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VAT
July 13, 2004


ANIL KHATRI
PRIMARY EXAMINER